IN THE CLAIMS

Please amend Claims 1 and 21 and add new Claims 26 and 27, as shown in the listing of claims.

1. (Currently Amended) A process for the continuous production of ~~a mixture of substances or of a reaction mixture that has been formed by reaction of components contained therein~~ an aqueous equilibrium peroxycarboxylic acid solution, comprising withdrawing individual components from storage containers or from distribution networks that form the equilibrium peroxycarboxylic acid solution including a lower carboxylic acid, aqueous hydrogen peroxide, water and a mineral acid catalyst, forming continuous streams of the individual components, conveying each component stream by a controlled system including a mass-flow or volume-flow measuring device and a regulating element for regulating the rate of flow, regulating mass flow-rates of the individual components in quantitatively proportional manner with reference to the mass flow-rate of a first component and introducing the regulated mass flow-rates of the individual components ~~of the mixture of substances~~ into a receiving container, immediately or after individual mass flow-rates have been completely or partially ~~conducted~~ combined together to form a total stream, thereby bringing together the individual components forming the ~~mixture of substances~~ equilibrium peroxycarboxylic acid and, ~~in the case of the production of a reaction mixture~~ and measuring the flow of the total stream formed from the individual streams or measuring the total quantity of the individual or partial streams fed into the

container and balancing total flows against the sum of the individual streams, and, allowing the mixture of substances to stand in a container until a desired conversion has been established.

2. (Original) The process according to Claim 1, further comprising measuring flow by a device for mass-flow measurement or a metering pump.

3. (Original) The process according to Claim 1, further comprising drawing the streams off from the storage containers and conveying them via the controlled system by pumps or by available preliminary pressure.

4. (Original) The process according to Claim 2, further comprising drawing the streams off from the storage containers and conveying them via the controlled system by pumps or by available preliminary pressure.

5. (Original) The process according to Claim 1, further comprising keeping regulating conditions constant by adjusting the preliminary pressure of the respective component stream upstream of the respective controlled system is adjusted to a constant value.

6. (Original) The process according to Claim 2, further comprising keeping regulating conditions constant by adjusting the preliminary pressure of the respective component stream upstream of the respective controlled system is adjusted to a constant value.

7. (Original) The process according to Claim 3, further comprising keeping regulating conditions constant by adjusting the preliminary pressure of the respective component stream upstream of the respective controlled system is adjusted to a constant value.

8. (Original) The process according to Claim 4, further comprising keeping regulating conditions constant by adjusting the preliminary pressure of the respective component stream upstream of the respective controlled system is adjusted to a constant value.

9. (Original) The process according to Claim 1, further comprising conducting quantitatively proportional component streams together in succession and homogenizing partial streams that are formed or total stream that is formed with of mixing elements.

10. (Original) The process according to Claim 2, further comprising conducting quantitatively proportional component streams together in succession and homogenizing partial streams that are formed or total stream that is formed with of mixing elements.

11. (Original) The process according to Claim 3, further comprising conducting quantitatively proportional component streams together in succession and homogenizing partial streams that are formed or total stream that is formed with of mixing elements.

12. (Original) The process according to Claim 4, further comprising conducting quantitatively proportional component streams together in succession and homogenizing partial streams that are formed or total stream that is formed with of mixing elements.

13. (Original) The process according to Claim 1, further comprising measuring rate of flow of the total stream that has formed or the total quantity of the individual streams or partial

streams introduced into the container or of the total stream and equalizing with the sum of the individual streams.

14. (Original) The process according to Claim 2, further comprising measuring rate of flow of the total stream that has formed or the total quantity of the individual streams or partial streams introduced into the container or of the total stream and equalizing with the sum of the individual streams.

15. (Original) The process according to Claim 3, further comprising measuring rate of flow of the total stream that has formed or the total quantity of the individual streams or partial streams introduced into the container or of the total stream and equalizing with the sum of the individual streams.

16. (Original) The process according to Claim 4, further comprising measuring rate of flow of the total stream that has formed or the total quantity of the individual streams or partial streams introduced into the container or of the total stream and equalizing with the sum of the individual streams.

17. (Original) The process according to Claim 1, further comprising producing an aqueous equilibrium solution of peroxycarboxylic acid from the components comprising lower carboxylic acid, aqueous hydrogen peroxide, water and mineral-acid catalyst, whereby the component streams of carboxylic acid, water, mineral acid, or a partial stream containing

carboxylic acid, water and mineral acid, and aqueous hydrogen peroxide are conveyed into the receiving container simultaneously in quantitatively proportional ratio or, in the case where the individual component streams have previously been conducted together, adding aqueous hydrogen peroxide by way of final component and bringing about the establishment of equilibrium by allowing the mixture to stand.

18. (Original) The process according to Claim 2, further comprising producing an aqueous equilibrium solution of peroxycarboxylic acid from the components comprising lower carboxylic acid, aqueous hydrogen peroxide, water and mineral-acid catalyst, whereby the component streams of carboxylic acid, water, mineral acid, or a partial stream containing carboxylic acid, water and mineral acid, and aqueous hydrogen peroxide are conveyed into the receiving container simultaneously in quantitatively proportional ratio or, in the case where the individual component streams have previously been conducted together, adding aqueous hydrogen peroxide by way of final component and bringing about the establishment of equilibrium by allowing the mixture to stand.

19. (Original) The process according to Claim 3, further comprising producing an aqueous equilibrium solution of peroxycarboxylic acid from the components comprising lower carboxylic acid, aqueous hydrogen peroxide, water and mineral-acid catalyst, whereby the component streams of carboxylic acid, water, mineral acid, or a partial stream containing carboxylic acid, water and mineral acid, and aqueous hydrogen peroxide are conveyed into the receiving container simultaneously in quantitatively proportional ratio or, in the case where the

individual component streams have previously been conducted together, adding aqueous hydrogen peroxide by way of final component and bringing about the establishment of equilibrium by allowing the mixture to stand.

20. (Original) The process according to Claim 4, further comprising producing an aqueous equilibrium solution of peroxycarboxylic acid from the components comprising lower carboxylic acid, aqueous hydrogen peroxide, water and mineral-acid catalyst, whereby the component streams of carboxylic acid, water, mineral acid, or a partial stream containing carboxylic acid, water and mineral acid, and aqueous hydrogen peroxide are conveyed into the receiving container simultaneously in quantitatively proportional ratio or, in the case where the individual component streams have previously been conducted together, adding aqueous hydrogen peroxide by way of final component and bringing about the establishment of equilibrium by allowing the mixture to stand.

21. (Currently Amended) A ~~system~~ device for the continuous production of mixtures of substances or of reaction mixtures compromising a plurality of storage containers or distribution networks for individual components of the mixture of substances, a plurality of devices for metering the individual components and a receiving container, a line branching off from each storage container or distribution network in the form of a ~~controlled~~ control system, each such ~~controlled~~ control system having a flow-measuring device and a regulating element for regulating the rate of flow and a regulator unit with control lines enabling a quantitatively proportional metering of the components, and a plurality of lines connected downstream of the

~~controlled~~ control systems leading into a receiving container, immediately or after individual lines or all lines have been guided together, there being a pump and a device for maintaining constant feed pressure between containers and associated control systems arranged up stream from said control system.

22. (Original) The device according to Claim 21, further comprising a mass-flow meter or a metering pump for the purpose of flow measurement as a part of the controlled system.

23. (Original) The device according to Claim 21, further comprising a plurality of pumps and devices for keeping the preliminary pressure constant arranged in each instance between the storage containers and each controlled system upstream of the controlled system.

24. (Original) The device according to Claim21, further comprising a plurality devices for process-management engineering for the purpose of coordinating the measurements and regulators with one another.

25. (Original) The device according to Claim 21, further comprising a mixing element, in a line following bringing together said plurality of line leading to said receiving container.

26. (New) The device according to Claim 25, wherein the mixing-element is a static mixer.

27. (New) The process according to Claim 1, wherein the lower carboxylic acid is acetic acid.